

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: **88106306.9**

(51) Int. Cl.⁵: **G01N 21/05, G01N 15/14**

(22) Date of filing: **20.04.88**

(30) Priority: **20.04.87 JP 97130/87**

(43) Date of publication of application:
26.10.88 Bulletin 88/43

(84) Designated Contracting States:
DE GB

(88) Date of deferred publication of the search report:
23.05.90 Bulletin 90/21

(71) Applicant: **HITACHI, LTD.**
6, Kanda Surugadai 4-chome Chiyoda-ku
Tokyo(JP)

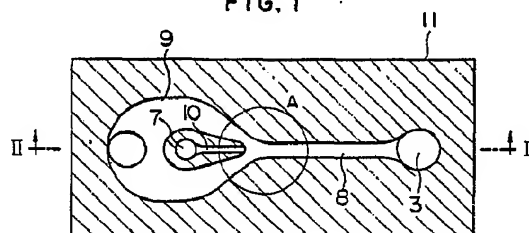
(72) Inventor: **Ohki, Hiroshi**
8-1, Migimomi
Tsuchiura-shi(JP)
Inventor: **Kamohara, Hideaki**
1343-38, Arakawahongo Amimachi
Inashiki-gun Ibaraki-ken(JP)
Inventor: **Miyake, Ryo**
Tsukuba Hausu 4-507, 2625-3 Shimoinayoshi
Chiyodamura Niihari-gun Ibaraki-ken(JP)

(74) Representative: **Altenburg, Udo, Dipl.-Phys. et al**
Patent- und Rechtsanwälte
Bardehle-Pagenberg-Dost-Altenburg
Frohwitter-Geissler & Partner Postfach 86 06
20
D-8000 München 86(DE)

(54) **Flow-cell device.**

(57) A sheath flow type flow-cell device for Flow-Cytometer comprises a first inlet (6) for sheath fluid, a flow passage (9) communicated with the first inlet and contracted toward downstream, the flow passage having a substantially rectangular cross section, a straight capillary flow passage (8) connected to the flow passage at downstream thereof, the capillary flow passage having a substantially rectangular cross section, a second inlet (7) for sample fluid, a nozzle (10) communicated with the second inlet and opened within the flow passage in the same direction as the flow direction of the straight capillary flow passage, a discharge port (3) provided at a terminal end of the straight capillary flow passage, and flow regulating means (8a, 8b; 19; 20) for regulating the flow of the sheath fluid in the straight capillary flow passage to be a laminar flow having a gradient of flow velocity.

FIG. 1



EP 0 288 029 A3



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
Y,D	THE JOURNAL OF HISTOCHEMISTRY AND CYTOCHEMISTRY vol. 25, no. 7, 1977, pages 774-780; V. KACHEL et al.: "Uniform Lateral Orientation, caused by flow forces, of flat particles in flow through systems"* whole document *	1	G 01 N 21/05 G 01 N 15/14
Y	US-A-3 893 766 (W.R. HOGG) * column 2, lines 57 - column 3, line 40 *	1	
A	US-A-4 352 558 (W. EISERT) * claim 1; figure 1 *	1,8	
A	REVIEW OF SCIENTIFIC INSTRUMENTS vol. 55, no. 9, September 1984, pages 1375-1400, New York, US; J.A. STEINKAMP: "Flow cytometry" * figure 5; page 1380, paragraph D *	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			G 01 N
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 23-02-1990	Examiner BRISON O.P.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			